



# WEEKLY CLIMATE BULLETIN

This Bulletin is issued weekly by the Climate Analysis Center and is designed to indicate, in a brief concise format, current surface climatic conditions in the United States and around the world. The Bulletin contains:

- *Highlights of major climatic events and anomalies.*
- *U.S. climatic conditions for the previous week.*
- *U.S. apparent temperatures (summer) or wind chill (winter).*
- *U.S. cooling degree days (summer) or heating degree days (winter).*
- *Global two-week temperature anomalies.*
- *Global four-week precipitation anomalies.*
- *Global monthly temperature and precipitation anomalies.*
- *Global three-month precipitation anomalies (once a month).*
- *Global twelve-month precipitation anomalies (every three months).*
- *Global three-month temperature anomalies for winter and summer seasons.*
- *Special climate summaries, explanations, etc. (as appropriate).*

*Most analyses contained in this Bulletin are based on preliminary, unchecked data received at the Climate Analysis Center via the Global Telecommunications System. Similar analyses based on final, checked data are likely to differ to some extent from those presented here.*

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# GLOBAL CLIMATE HIGHLIGHTS

## MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF NOVEMBER 3, 1990

### 1. The Southeastern U.S. and Bahamas:

#### **A VERY DRY WEEK.**

Little or no rain fell across the Southeast and northern Bahamas while 20–40 mm dampened portions of the southern Bahamas. Six-week rainfall deficits remained relatively low across most of the Southeast, but ranged between 50–100 mm along the southern and middle Atlantic and central Gulf coasts. Across the Bahamas, where a drier weather pattern prevailed during October, deficits since mid-September approached 255 mm in spots [31 weeks].

### 2. Continental Europe and North-Central Africa:

#### **WARM WEATHER RETURNS TO SOUTHERN EUROPE AND NORTHERN AFRICA.**

Although temperatures remained close to normal across northern and western Europe, large temperature departures redeveloped in the Balkans, Turkey, Italy, Tunisia, and northern portions of Algeria, Libya, and Egypt. Departures of +3°C to +5°C were observed in most areas, with isolated reports up to +9°C in Algeria and Albania. Daily temperatures averaged up to 13°C above normal in the Balkans [7 weeks].

### 3. Central and Western Sahel:

#### **UNUSUALLY HIGH TEMPERATURES AGAIN DOMINATE REGION.**

Dry soils, resulting from below normal rainfall during Summer and early Autumn, kept humidities low and allowed weekly departures to remain around +2°C [12 weeks].

### 4. Southeastern India and Sri Lanka:

#### **SOAKING RAINS CONTINUE.**

Coastal southern and southeastern India was drenched by 275–465 mm of rain while totals across western, central, and northern Sri Lanka ranged between 100–145 mm. Although inundating daily totals were not observed (no location received more than 135 mm in a day), several locations measured more than 80 mm on as much as 4 consecutive days (see front cover) [3 weeks].

### 5. Northeastern China and North Korea:

#### **DRYNESS INTENSIFIES.**

For the fifth consecutive week, little or no precipitation fell across northeastern China and North Korea. Since late September, only

5–30 mm of precipitation has been measured, which represents less than one third of normal [5 weeks].

### 6. Japan:

#### **PRECIPITATION AND TEMPERATURE REMAIN SLIGHTLY ABOVE NORMAL.**

Little or no rain fell on northern and western Honshu and across Hokkaido. Most other locations measured 20–50 mm, with scattered stations reporting 70–150 mm in extreme southeastern Honshu and along the Ryukyu Islands [Ending after 7 weeks]. In addition, weekly temperature departures remained slightly above normal (around +2°C) except along the immediate southern and eastern coastline. In contrast, departures reached +4°C in northern and western Hokkaido [Ending after 12 weeks].

### 7. Southeastern Australia:

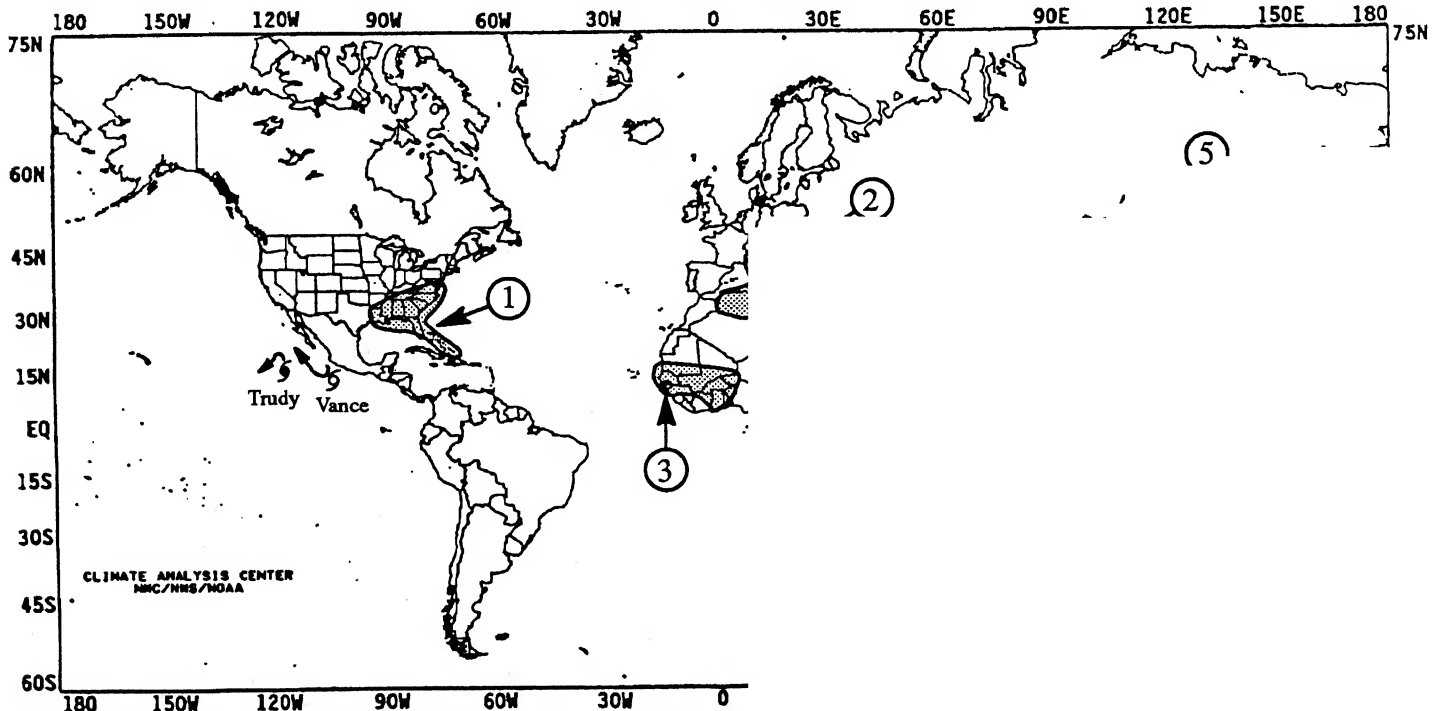
#### **SUMMER ARRIVES EARLY.**

Summer-like weather, accompanied by light rainfall, has developed across southeastern Australia. Little or no rain has fallen during the past two weeks, except for 15–30 mm along the immediate southern and southeastern coast. Since mid-September, precipitation shortfalls ranged from 15 mm in the southeastern outback to near 100 mm along coastal Victoria [4 weeks]. Temperatures shot upward last week, averaging 3°C to 9°C above normal after departures of +2°C to +4°C were observed during the previous week. The largest departures were found across interior New South Wales, where daily departures reached +13°C [2 weeks].

### 8. Southeast Asia:

#### **RELATIVELY DRY WEATHER CONTINUES AS INUNDATING RAINS FALL SOUTH OF REGION.**

Most of Vietnam, Hainan, and mainland Thailand recorded only 10–40 mm of rain, although isolated showers dumped up to 135 mm along the Vietnamese coast. Torrential downpours, however, fell just to the south of the region, dumping 150–365 mm on the northern Malay Peninsula and the Isthmus of Kra [Ended after 5 weeks].



#### **EXPLANATION**

TEXT: Approximate duration of anomalies is in brackets. Precipitation anomalies are in parentheses. MAP: Approximate locations of major anomalies and episodic event temperature anomalies, four week precipitation anomalies, for

# UNITED STATES WEEKLY CLIMATE HIGHLIGHTS

FOR THE WEEK OF OCTOBER 28 – NOVEMBER 3, 1990

Unseasonably mild autumn weather covered much of the U.S., especially the nation's midsection, although much of the West experienced wintry conditions toward the week's end while cold air enveloped the South and East early in the week. High pressure located in the eastern U.S. dominated the weather from the Atlantic Coast to the Great Plains, producing mild and sunny days and cool, clear nights. The cool and calm nights formed dense fog over parts of the Great Lakes and mid-Atlantic, reducing visibilities to near zero. On I-40 near Asheville, NC, fog caused a multi-car accident where over fifty vehicles were involved. Parts of the Plains reported mid-week record warmth as southerly winds caused temperatures to soar into the eighties as far north as North Dakota. Farther west, the season's first major winter storm dumped heavy snow across parts of the northern and central Rockies and northern High Plains. Southwestern Colorado received over a foot of snow, and portions of western Kansas and Nebraska recorded up to six inches. Elsewhere, heavy rains and high winds pounded much of the Pacific Northwest and snow fell on the Cascades and northern Sierra Nevadas. In Alaska, a strong winter storm dumped heavy snow across the central part of the state, with Fairbanks accumulating 14 inches. Heavy rain was reported on the main island of Hawaii where up to six inches was measured at Hilo.

Early in the week, a quick-moving cold front pushed off the Eastern Seaboard, resulting in more seasonable fall temperatures for the East. High pressure behind the front drifted slowly eastward over the mid-Atlantic, dominating the weather east of the Rockies. Southerly winds on the western side of the high produced unseasonably warm conditions across much of the northern and central Plains. Numerous record highs were reported from Montana to Missouri. Meanwhile, a rapidly-moving cold front pushed through the Pacific Northwest and into the northern Rockies. High wind warnings were issued for much of the Washington and Oregon coastal areas, and heavy rain was observed over parts of northern California. Crescent City, CA measured nearly 3.5 inches, and snowfall amounts of 4 inches were reported in the Oregon Cascades.

During the last half of the week, the front in the northern Rockies tracked into the central U.S. from the upper Mississippi Valley southwestward into the southern Plateau region. Temperatures behind the front

were up to 30°F lower in the northern Plains. Farther south, a low pressure system developed along the front over southern Utah. Moisture from the remnants of Tropical Storms Trudy and Vance streamed into the Southwest and combined with the system. The storm intensified and moved eastward into Colorado, producing heavy snow and high winds across much of the central Rockies. Lander, WY recorded up to a foot of snow and the Black Hills observed as much as 5 inches. In sharp contrast, the eastern third of the country basked in unseasonably warm and dry conditions. Record high temperatures were reported from Mississippi to Massachusetts where temperatures soared to 80°F as far north as Philadelphia, PA.

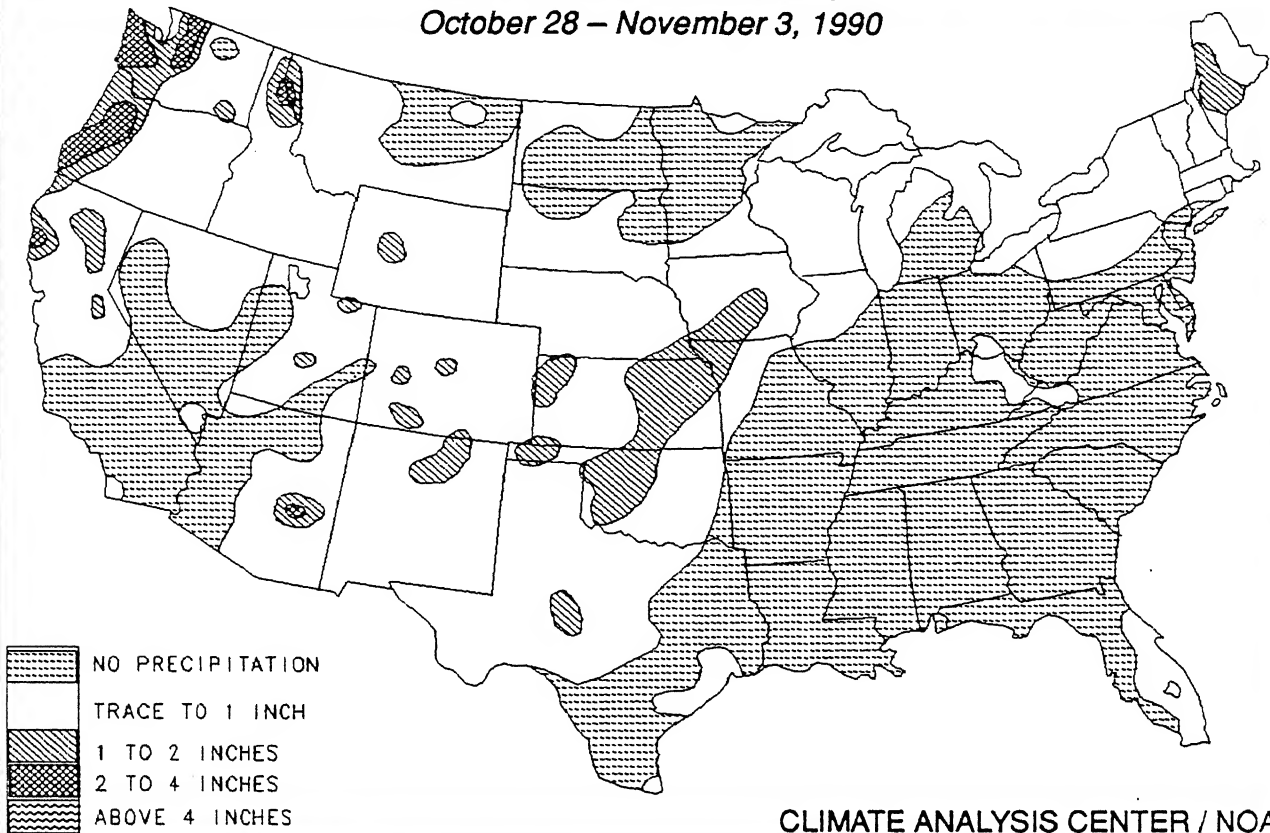
According to the River Forecast Centers, the greatest weekly precipitation (more than 2 inches) fell along the Pacific Northwest Coast, particularly northern California and Oregon, and on the central Great Plains (Table 1). Scattered heavy amounts were observed in south-central Maine, parts of the south-central Rockies, east-central Arizona, and the big island of Hawaii. Light to moderate totals were reported across the Pacific Northwest, northern Intermountain West, most of the Rockies and Plains, western Great Lakes region, extreme western and northern New England, eastern coastal Florida, and much of Alaska. Little or no precipitation was observed across the eastern third of the nation, northern Plains, upper Midwest, the Southwest, and the remainder of Hawaii.

Unseasonably mild weather prevailed across the central U.S. Weekly temperature departures of +8°F to +12°F were common throughout much of the central and northern Plains and middle Mississippi Valley (Table 2) where highs soared into the upper seventies and lower eighties. Slightly above normal temperatures occurred across much of Midwest, Tennessee Valley, mid-Atlantic, Rockies, and Plains. In contrast, temperatures in northern Maine averaged up to 5°F below normal as highs failed to reach 50°F. Much of Alaska also observed colder than usual conditions (Table 3). Slightly below normal temperatures were reported in portions of the Southeast, along the Pacific Coast, and in the Great Basin.

**TABLE 1. Selected stations with 1.50 or more inches of precipitation for the week.**

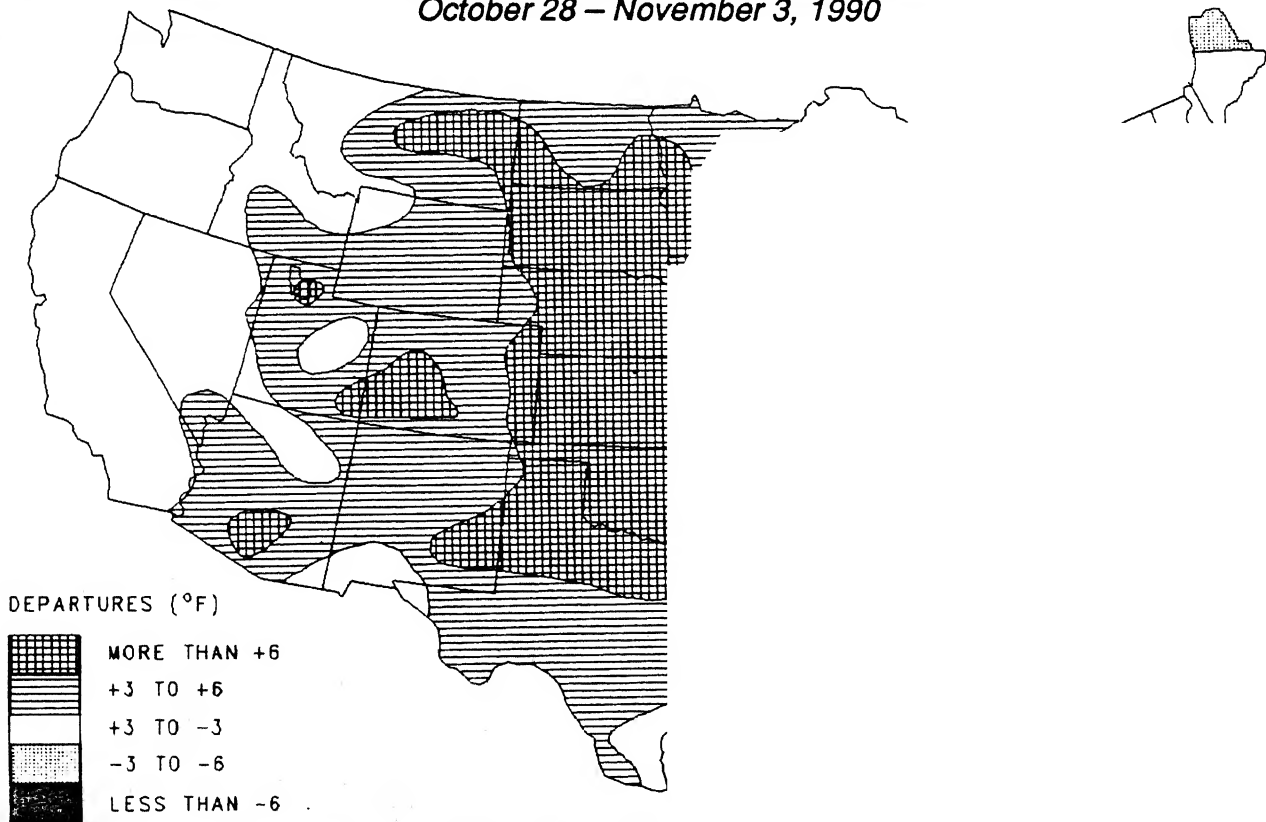
<b>STATION</b>	<b>TOTAL (INCHES)</b>	<b>STATION</b>	<b>TOTAL (INCHES)</b>
HILO/LYMAN, HAWAII, HI	6.72	CHANUTE, KS	1.85
EUGENE, OR	3.49	SEATTLE-TAKOMA, WA	1.76
STAMPEDE PASS, WA	3.48	YAKUTAT, AK	1.75
QUILLAYUTE, WA	2.44	ASTORIA, OR	1.74
HOQUIAM, WA	2.41	SEXTON SUMMIT, OR	1.70
SALEM, OR	2.30	SALINA, KS	1.65
TACOMA/McCHORD AFB, WA	2.17	WICHITA, KS	1.59
ANNETTE ISLAND	2.00	WICHITA/McCONNELL AFB, KS	1.55
HOBART, OK	1.86		

**OBSERVED PRECIPITATION**  
*October 28 – November 3, 1990*



CLIMATE ANALYSIS CENTER / NOAA

**DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)**  
*October 28 – November 3, 1990*



# EXTREME MAXIMUM TEMPERATURE (°F)

October 28 – November 3, 1990

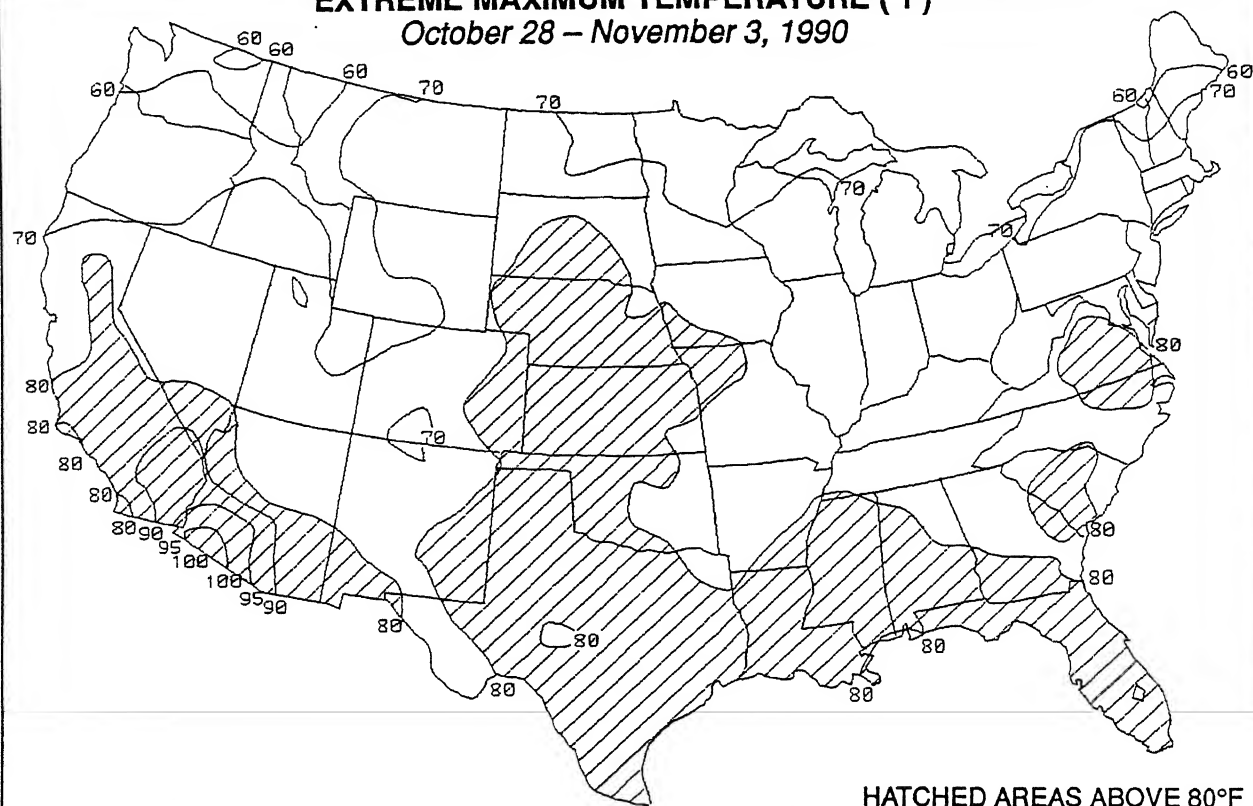


Figure 1. Extreme maximum temperatures (°F) during the week of Oct. 28-Nov. 3, 1990. Hatched areas are above 80°F, and isotherms are drawn every 10°F (except for the 95°F contour) between 60°F to 100°F. Indian Summer weather covered much of the U.S., particularly in the nation's midsection, during some portion of the week. Highs soared into the eighties during mid-week as far north as the Dakotas and into the upper seventies towards the week's end in central New England.

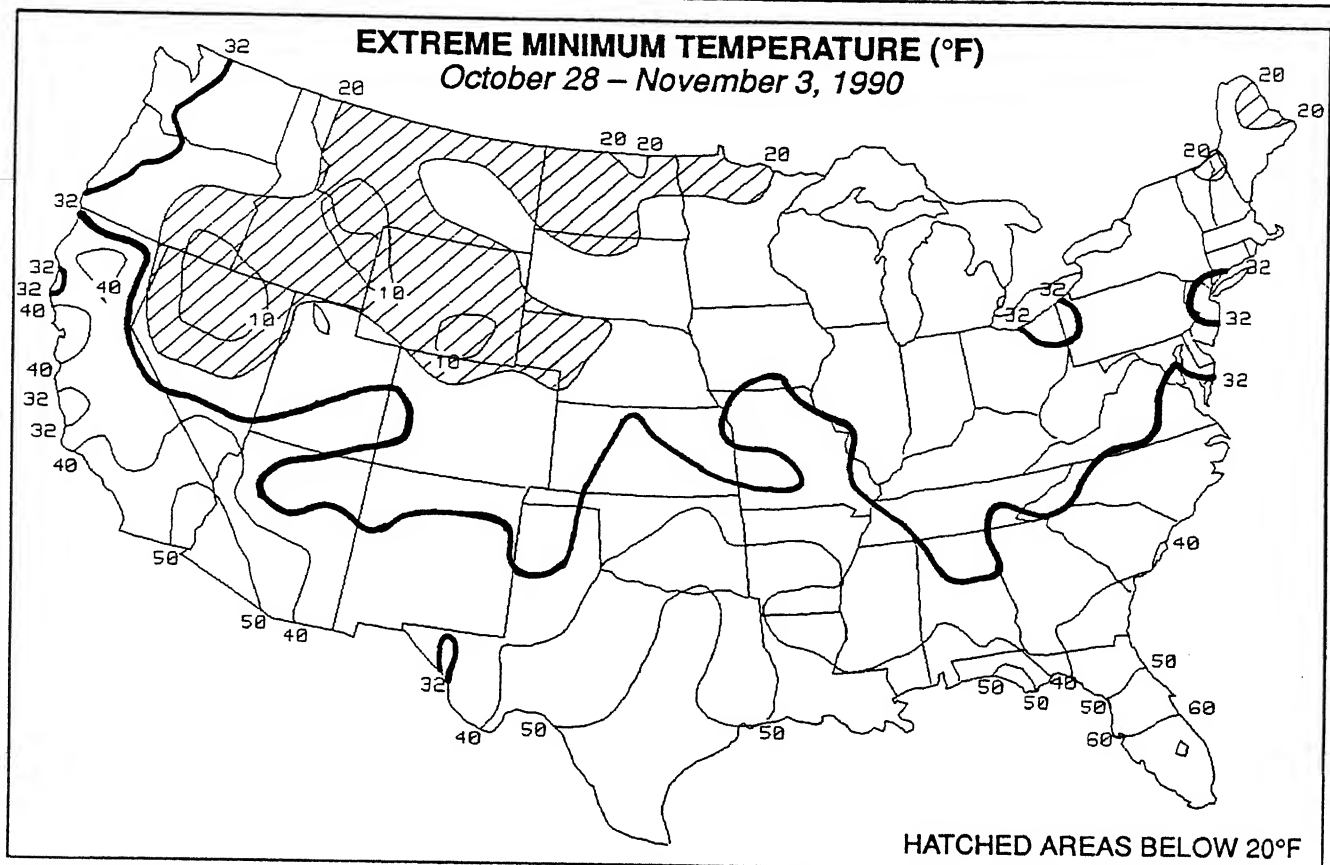
TABLE 2. Selected stations with temperatures averaging 9.0°F or more ABOVE normal for the week.

STATION	DEPARTURE (°F)	AVERAGE (°F)	STATION	DEPARTURE (°F)	AVERAGE (°F)
TOPEKA, KS	+12.7	63.1	DUBUQUE, IA	+10.0	53.9
ST. LOUIS, MO	+12.0	63.3	JOPLIN, MO	+9.9	63.4
PONCA CITY, OK	+11.6	65.6	CHANUTE, KS	+9.7	62.0
KANSAS CITY/INTL., MO	+11.2	63.2	COLUMBIA, MO	+9.7	60.6
WICHITA, KS	+11.2	63.1	SALINA, KS	+9.7	60.3
OTTUMWA, IA	+11.1	58.6	RUSSELL, KS	+9.7	59.2
BURLINGTON, IA	+11.0	58.8	NORTH OMAHA, NE	+9.6	57.0
MOLINE, IL	+11.0	57.6	TULSA, OK	+9.5	65.5
CONCORDIA, KS	+10.4	59.7	CEDAR RAPIDS, IA	+9.4	55.6
SPRINGFIELD, MO	+10.1	61.6	DES MOINES, IA	+9.2	55.9
LINCOLN, NE	+10.1	56.7	MILWAUKEE, WI	+9.2	53.9
GAGE, OK	+10.0	62.6	SPRINGFIELD, IL	+9.1	58.4
PEORIA, IL	+10.0	57.0			

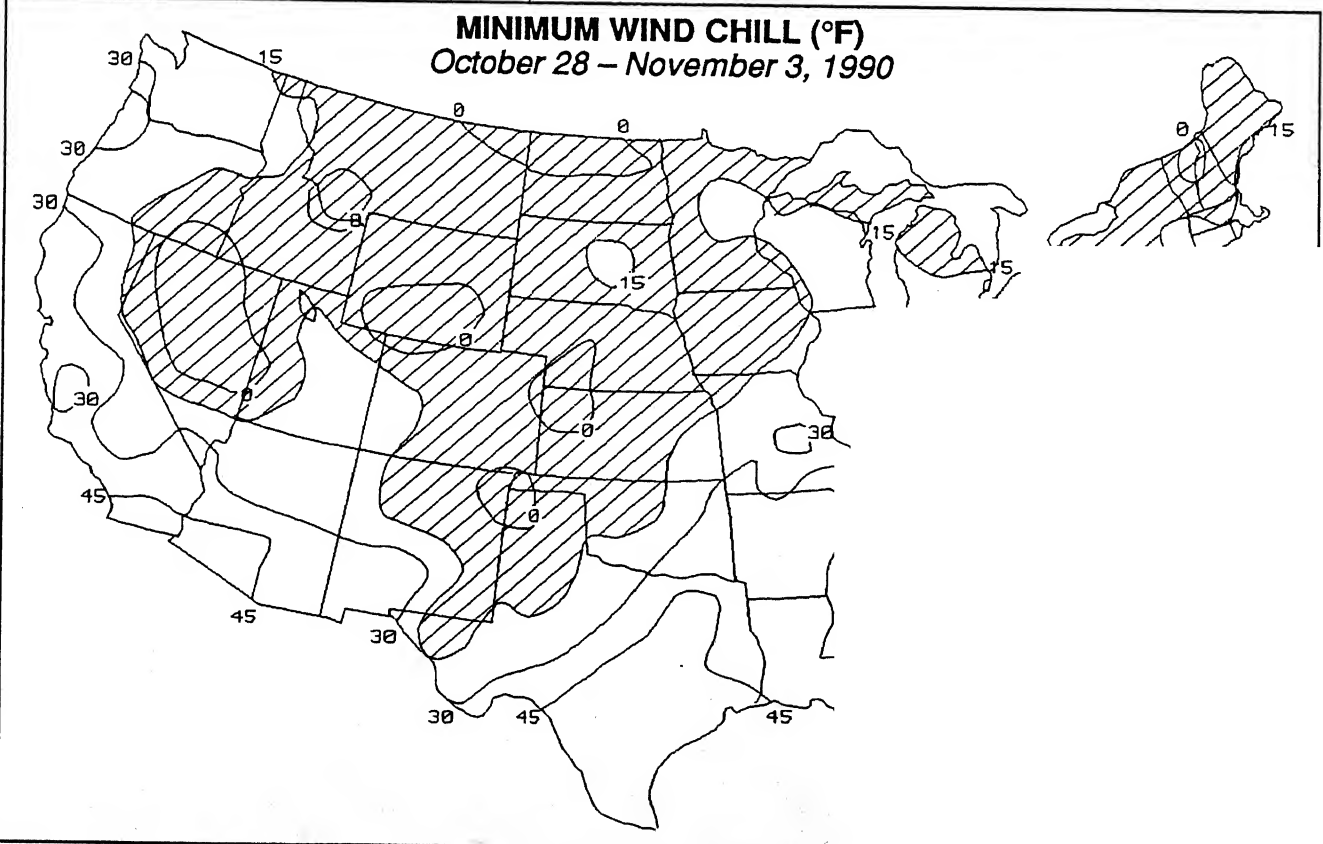
TABLE 3. Selected stations with temperatures averaging 2.0°F or more BELOW normal for the week.

STATION	DEPARTURE (°F)	AVERAGE (°F)	STATION	DEPARTURE (°F)	AVERAGE (°F)
BETTLES, AK	-11.1	-1.4	BURNS, OR	-2.9	38.9
BIG DELTA, AK	-8.3	8.1	BETHEL, AK	-2.7	21.2
KING SALMON, AK	-7.1	20.9	ILIAMNA, AK	-2.6	27.2
ANIAK, AK	-6.8	16.0	PASO ROBLES, CA	-2.5	54.8
SEXTON SUMMIT, OR	-5.5	40.3	CORDOVA/MILE 13, AK	-2.4	32.8
TALKEETNA, AK	-5.2	19.5	SANTA MARIA, CA	-2.4	55.8
HOULTON, ME	-5.1	33.9	MACON/WARNER-ROBINS AFB, GA	-2.4	57.8
CARIBOU, ME	-3.9	34.1	BAKERSFIELD, CA	-2.4	59.9
BLUE CANYON, CA	-3.3	45.6	WAYCROSS, GA	-2.4	61.4
ANCHORAGE, AK	-3.0	25.3	ANNISTON, AL	-2.3	54.4
MACON, GA	-3.0	57.0	FAIRBANKS, AK	-2.2	12.3
CAPE HATTERAS, NC	-3.0	57.6	OLYMPIA, WA	-2.0	44.1



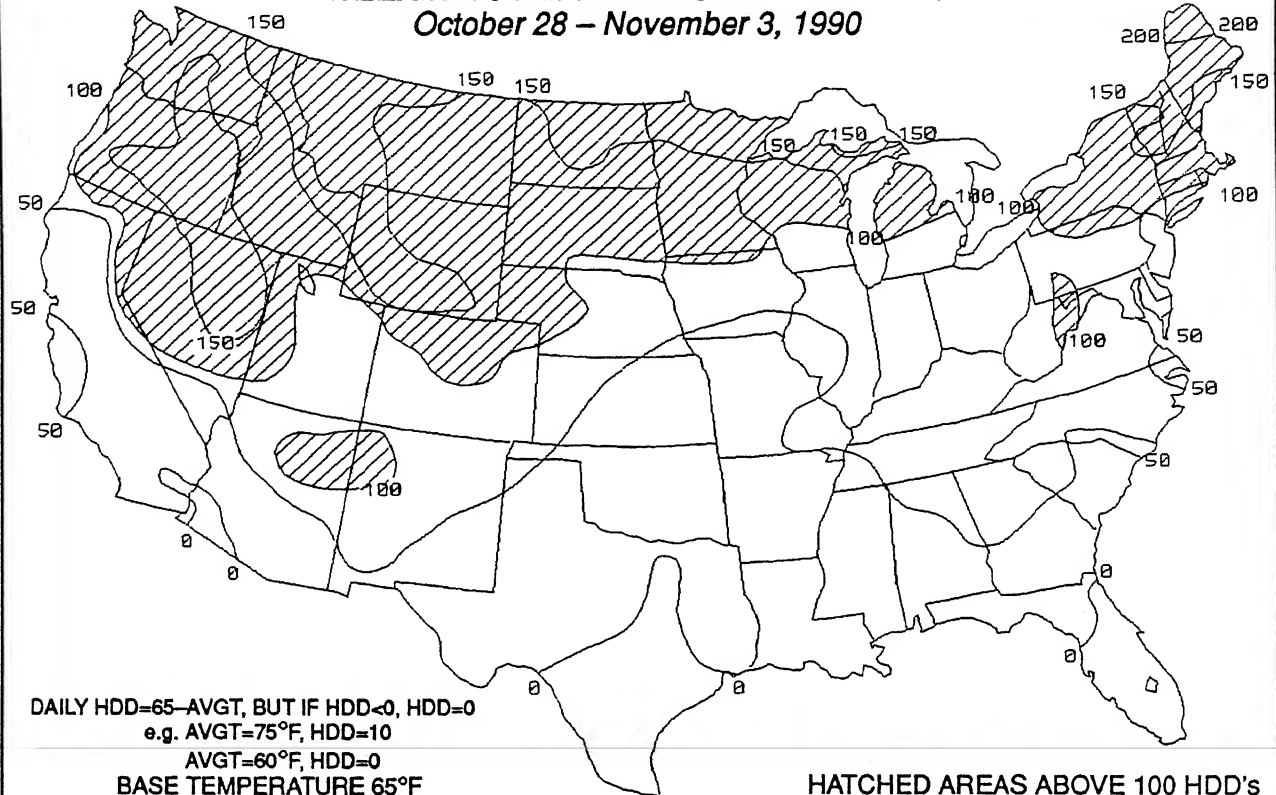


Extremely cold weather dropped readings near or below freezing across much of the South and East early in the week while temperatures plunged well below 32°F towards the week's end in the northern and central Rockies and Plains (top). A strengthening storm system brought cold air and strong winds to the north-central U.S., producing very cold (<15°F) wind chills during the latter half of the week (bottom).



## WEEKLY TOTAL HEATING DEGREE DAYS

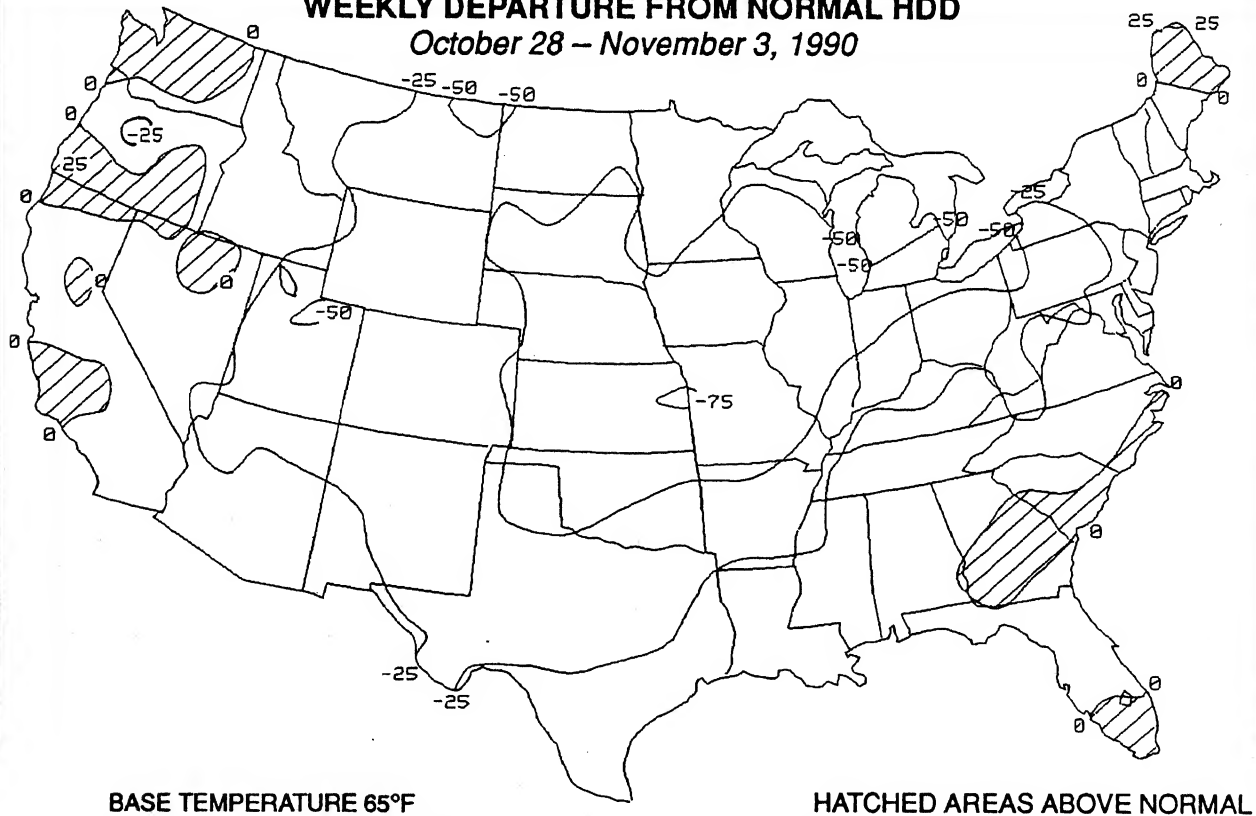
October 28 – November 3, 1990



"Indian Summer" weather during the first portion of the week kept weekly heating usage relatively low (between 100 – 200 HDD's) in the northern and central Rockies and Plains, and warmer air towards the week's end suppressed the total weekly heating in the South and East (top). Nearly all of the contiguous U.S. experienced subnormal weekly heating demand as most of the country recorded above normal temperatures (bottom).

## WEEKLY DEPARTURE FROM NORMAL HDD

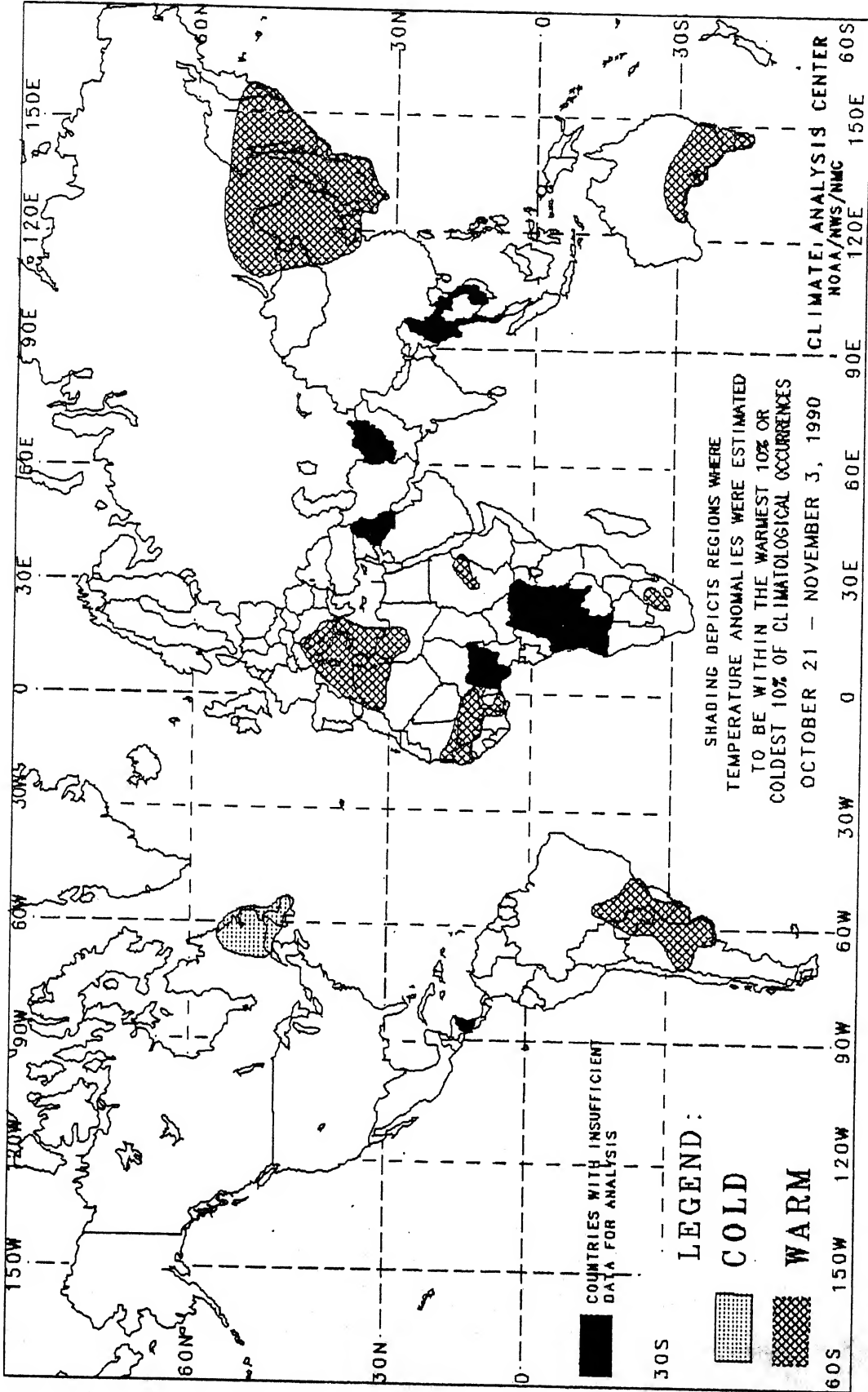
October 28 – November 3, 1990





# GLOBAL TEMPERATURE ANOMALIES

2 WEEKS



The anomalies on this chart are based on approximately 2500 observing stations for which at least 13 days of temperature observations were received from synoptic reports. Many stations do not operate on a twenty-four hour basis so many night time observations are not taken. As a result of these missing observations the estimated minimum temperature may have a warm bias. This in turn may have resulted in an overestimation of the extent of some warm anomalies.

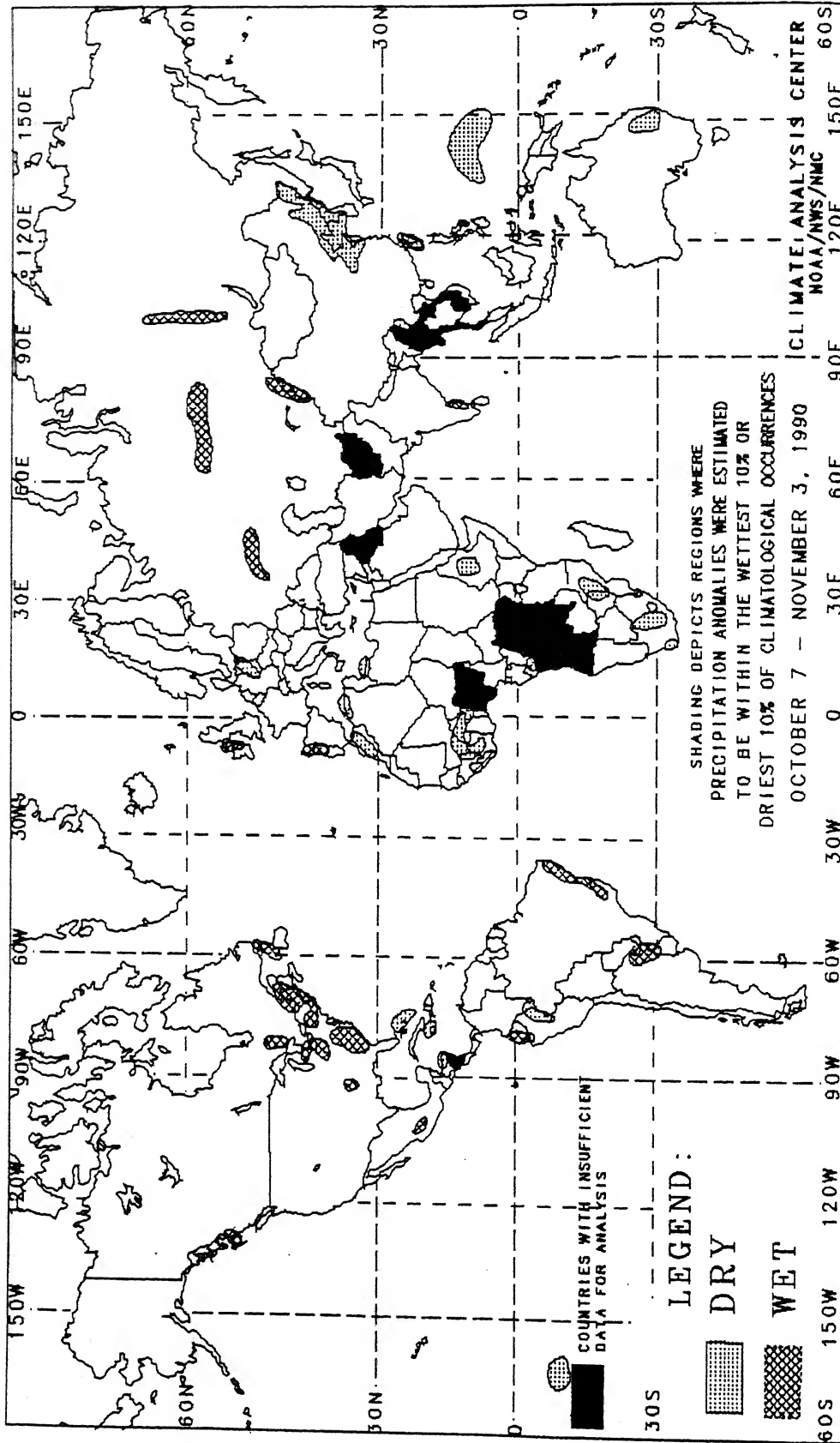
Temperature anomalies are not depicted unless the magnitude of temperature departures from normal exceeds 1.5°C.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

This chart shows general areas of two week temperature anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

# GLOBAL PRECIPITATION ANOMALIES

4 WEEKS



The anomalies on this chart are based on approximately 2500 observing stations for which at least 27 days of precipitation observations (including zero amounts) were received or estimated from synoptic reports. As a result of both missing observations and the use of estimates from synoptic reports (which are conservative), a dry bias in the total precipitation amount may exist for some stations used in this analysis. This in turn may have resulted in an overestimation of the extent of some dry anomalies.

In climatologically arid regions where normal precipitation for the four week period is less than 20 mm, dry anomalies are not depicted. Additionally, wet anomalies for such arid regions are not depicted unless the total four week precipitation exceeds 50 mm.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of four week precipitation anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

